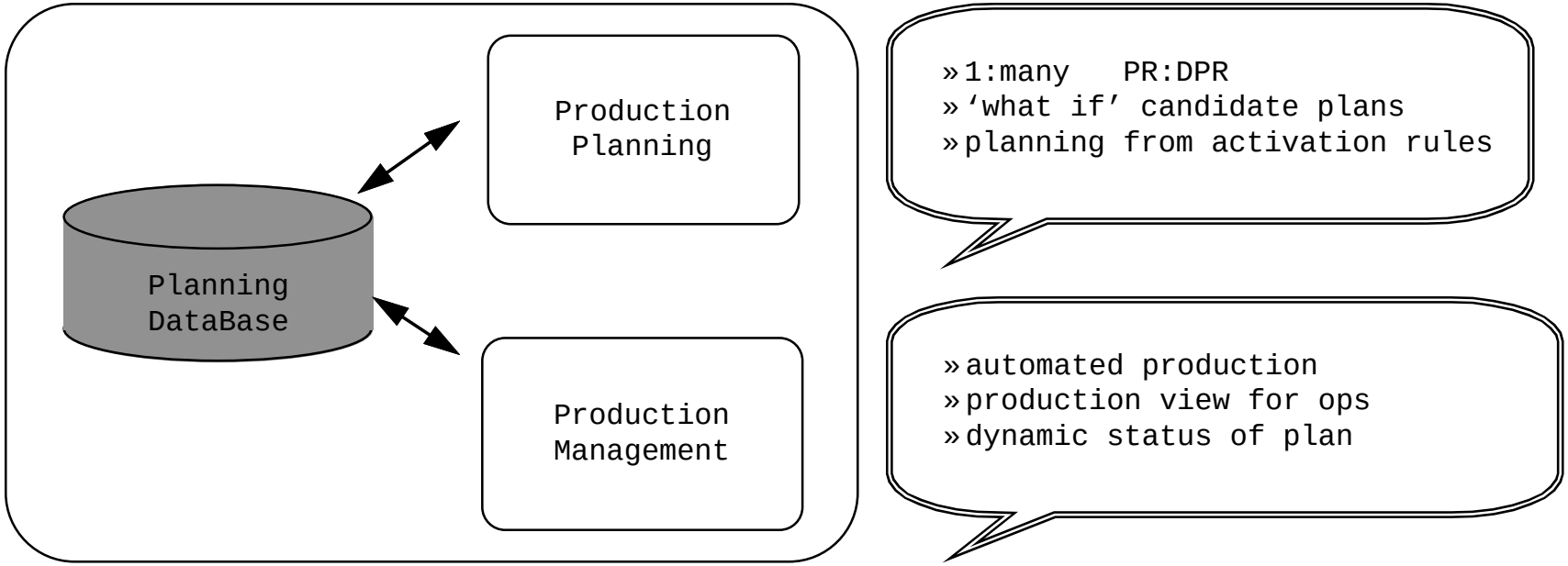
Planning Subsystem Concepts & Drivers

- **Data Driven product generation for increased automation**
  - **Job initiation based on data availability**
- **Schedule driven adjustments for flexibility**
  - **Plan generation initiated by operator command**
  - **Dynamic adjustments to deviations**
- **Support for activation rules identified by AHWGP**
  - **Tailoring to PGE initiation criteria**
- **Production management shared between Planning and Processing Subsystems**
  - **Planning monitors data arrival & ensures data availability**
  - **Processing controls resource allocation and execution**
- **Dynamic status update provided by Planning and Processing**
  - **DPR processing state attributes include rejected, queued, data staging, executing, canceled, data destaging**

Planning Subsystem Concept

- **Production Planning generates candidate plans from planning data**
- **Production Management orchestrates production**



Key Definitions

Production Request (PR) - Contained in Planning database. The mechanism for requesting products to be generated. Will lead to the creation of multiple DPRs . A PR identifies a product to be produced and the time range that it should be produced for.

Product Generation Executive (PGE) - The smallest scheduleable entity managed by Planning and processing. Consists of executables and scripts that may lead to the generation of standard data products.

Data Processing Request (DPR) - Generated by Planning using PR. One DPR requests one PGE to be executed. DPR information includes PGE, Input data granule(s), Output data granule & archive location, Planned start/end execution times, Priority.

Key Definitions (cont.)

Plan - The processing objectives for a particular time period. Generated by Planning Subsystem using PRs, Resource Availability information, Data Availability predictions, Production Rules and PGE Profiles. Two types of plans exist:

- **Candidate Plan(s)- A potential active plan. Represents a "what-if" planning result. Several candidate plans may exist at one time.**
- **Active Plan - The candidate plan selected by operations to be the current plan.**

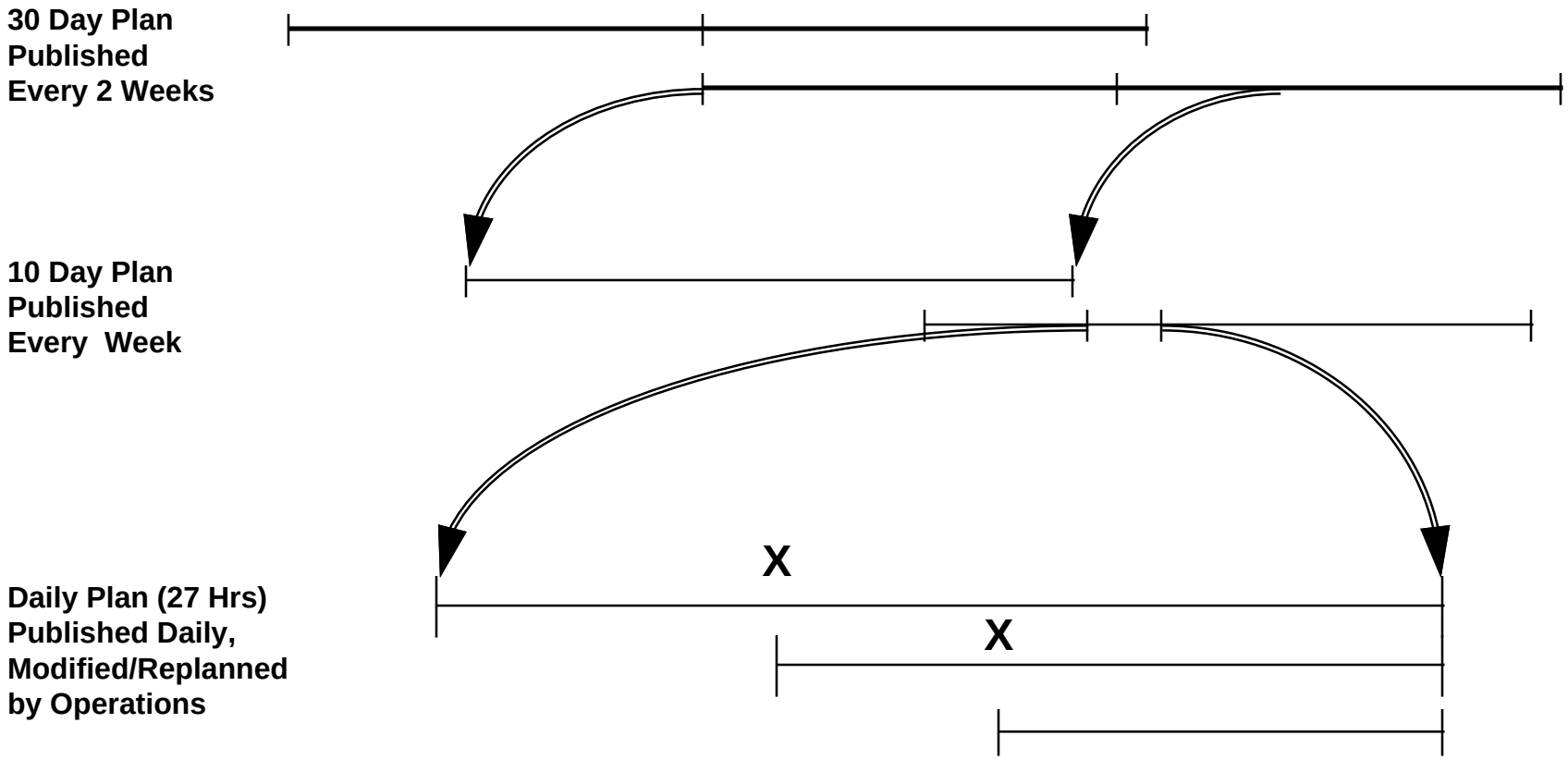
Standard processing - predictable, periodic processing keyed to data arrival (probably highest priority processing)

Reprocessing - predictable post processing performed with refined (probably at lower priority than standard processing with a constant backlog)

Production Planning Operations Concept at Release A

- **An Automated Process**
  - **Standard production job information contained in planning database that is populated at algorithm I&T with updates as required.**
  - **Data arrivals trigger subscription notifications that leads to job execution.**
- **30 Day Plan Published Every 2 Weeks**
  - **The Production scheduler prepares a 30 day plan to aid in evaluating activities at a high level - e.g., for staff planning.**
  - **The 30 day plan only updated on 2 week centers, will not reflect changes**
- **10 Day Plan Published Every Week**
  - **Like 30 day plan, this plan is suitable for high level activities, reflects intermediate changes**
- **Daily Schedule Generated and Updated as Needed**
  - **Daily plan (27 hours) reflects most current activities.**
  - **Production Scheduler may replan as determined necessary**
  - **Replans covers the remainder of the planning period**

Production Planning Cycle Concept



Production Planning Overview

Production Planner

(PLS)

Maintain Data Base

Production Planner

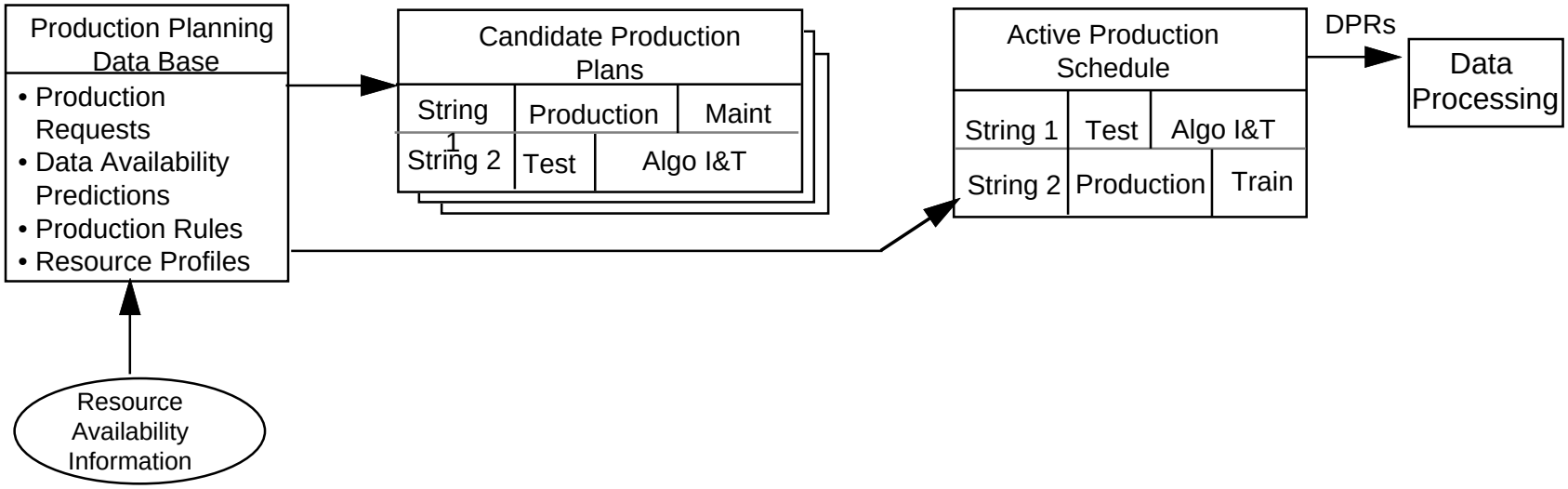
(PLS)

Develop Candidate Plans (30 & 10 Day)

Production Scheduler

(DPS)

Choose/Activate/Manage Daily Production Schedule



Operator Roles & Responsibilities

- **Production Planner**
  - **Database population/maintenance**
    - > **Inputs/updates approved standard and reprocessing production**
    - > **Receives and maintains data availability predictions**
    - > **Receives, coordinates and maintains approved production rules/ priorities**
    - > **Receives data from site CM to create site resource processing profiles**

Operator Roles & Responsibilities (cont.)

- **Production Plan/Replan Development**
  - > **Create 30 day, 10 day production plan with processing requests. Review - Update - Optimize**
  - > **Create daily production schedule and replan as necessary**
  - > **Monitor processing status**
  - > **Coordinate production schedule problems with other provider and receiver sites and SMC**

Operator Roles & Responsibilities (cont.)

- **Production Scheduler**
  - **Production schedule activation & management**
    - > **Activate and deactivate daily production schedules**
    - > **Modify/add/cancel DPRs**
    - > **Monitor and coordinate data availability with providers and SMC**
    - > **Coordinate processing request status/problems with originators**
    - > **Document-resolve process faults**
    - > **Optimize scheduling/use of data processing resources**
    - > **Provide production scheduling reports: fault, security, performance, accounting/accountability**